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Electricity on the Farm

Lily

March 1928

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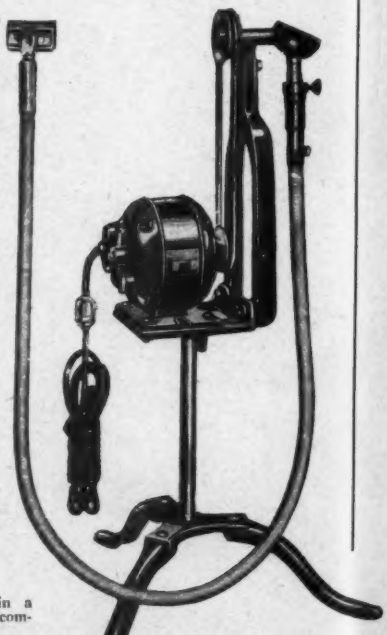

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Electricity on the Farm

Vol. 1 MARCH 1928 No. 9

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Electricity Mothers a Flourishing Flock

THREE weeks of watchful care before the new brood steps out into the world. Then good food, plenty of fresh water, cleanliness—and another flock of chicks is on its way to profit-making.

The principles of success in raising chickens have not changed. But electricity with its automatic incubators, brooders, water-pumps, feed-grinders and lights has assumed almost the role of the mother hen.

There is so much less of tedious drudgery and so much more of easy efficiency on farms where the worth of electricity is known. The choice of good equipment is the first step in successful electrification. That is why farmers are learning to look for the G-E monogram on electric devices.

Ask Your Power Company

If your farm is on or near an electric power line, ask the power company for a copy of the new G-E Farm Book which explains more than 100 uses for electricity on the farm.

GENERAL ELECTRIC

Electricity on the Farm

Vol. 1 MARCH 1928 No. 9

Pride and Prosperity

It is an odd state of affairs, but nevertheless true, that pride in any object engenders a deeper interest in it as long as that pride has opportunity of being gratified.

It's not at all surprising then that the folks around a farm which is well equipped electrically should have a far deeper interest in the establishment than do those on an unimproved farm. How satisfying it is to show our friends the great comforts and conveniences of an electrical household!

And this pride and resulting interest develop enthusiasm—from which comes success.

It is not taking too much for granted to say that the successful farm of the future will be the electrified one.

No Hired Man

A farmer up in Wisconsin says that since putting electricity to work in doing the chores he has been able to dispense with the services of his hired man. In this instance the real economy of electric service is evident. The pay of the hired man is no mean item on the farm and to replace him with electricity costing but a fraction as much is a mighty good business move.

Of course, not all farms can replace their hired men entirely by electricity but many can cut down on the amount of hired help required by letting electric current do a lot of the more irksome and time-consuming tasks. And that's just what electricity power is for. It replaces human labor at but a fraction of the cost of the latter and builds for efficiency, and independence of hired help. If there were more farmers who had the faith of the Wisconsin farmer in making electricity do all tasks which it can perform cheaper than hired help, there would be one big farm problem nearer to solution—the "hired man" problem.

INDEXED

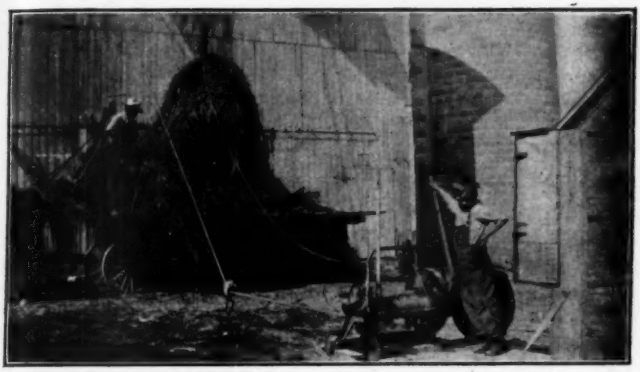
Electricity Saves A Hired Man

By CHESTER A. GOSS

On the Meyerhoefer Farm in Southern Wisconsin, Electricity is Cutting Labor Costs and Making Farming Easier

ELECTRICITY has gone to work for central west farmers in real earnest. Electric power, heat and light are removing the drudgery and lightening many of the tasks that have in the past made farm life hard and disagreeable. Not only does electricity lessen the farm labor required, but it enables the farmer to get better help, for higher class men and women gravitate to the farm when the drudgery of the tasks to be done there is lessened. Not only does electricity make farming more pleasant and enjoyable, but it saves money. Properly selected, electric equipment pays for itself and the ratio of saving to the investment remains pretty much the same.

Individual lighting plants have made electricity for lighting purposes and the use of small household appliances available to farmers for years. It is true that electric power has not been accessible to most farmers, but the best thought of the electrical industry is at work solving the problem; high tension lines are springing up all over the country, and utility



Hoisting Hay on the Meyerhoefer Farm with a 5-Horsepower Motor

companies are thinking in terms of kilowatt hour rates that the farmer can afford to pay.

Does Good Work on Average Farm

The Joseph J. Meyerhoefer farm, five miles from Geneva Lake, Wisconsin, demonstrates what electricity can do where it is available and utilized. The Meyerhoefers are renters on a very ordinary farm of 160 acres. but they have electrified the farm completely, and it is now pointed out as a practical demonstration of the value of electricity for farm power as well as heat and light.

It was three years ago that the first motor was installed on the Meyerhoefer farm. Now there are fourteen ranging in size from one-sixth to fifteen horse power. These motors grind the feed, cut the ensilage, unload the hay, milk the cows, cool the milk, heat water for sterilizing the utensils, wash and iron the clothes, pump the water and many other services besides lighting the farmstead.

The day I was there, a motor was painting the barn with a vacuum spray pump.

What Is Accomplished?

You wonder what the value of all this is.

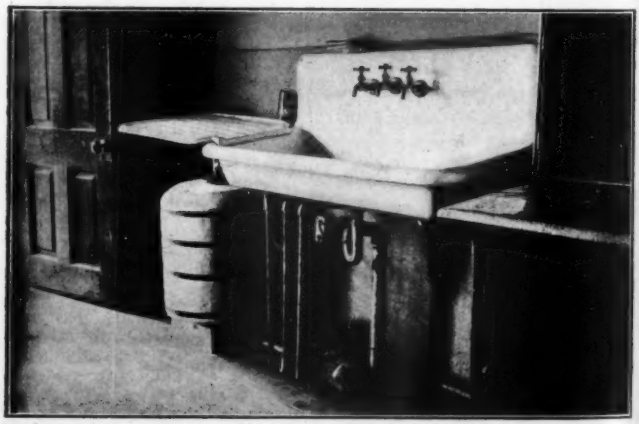
Well, for example, they saved 70 hours per week for one man. One less man was actually needed on the farm and the labor of both Mr. and Mrs. Meyerhoefer was lessened. Forty-eight loads of hay were hoisted into the barn at an average cost of less than 6 cents per load. One hundred and thirty-five tons of corn were cut with an ensilage cutter at a cost of just over 15 cents per ton, and there were no additional help and teams around with their cost of feed and the labor of preparing it. Mr. Meyerhoefer fills his silo any time he wants to and when the corn is ready.

In the dairy barn, twenty

cows are milked with an output of well over 400 pounds per day. According to the University of Illinois, it takes 52 hours a year longer to milk a cow by hand than with a machine. The cost of operating the Meyerhoefer milker by electricity was less than three dollars per month in 1924, 1925 and the following year. After the milking is finished the milk is taken to the milk house, where it is poured over coils, through which ice water from the refrigerating machine is circulated. Following this cooling, the milk is placed in a tank of ice cold water, which keeps it at an even temperature until time for it to be taken to the factory. The Borden milk plant pays three cents premium for specially selected milk of low bacterial count, and the ice machine makes this kind of milk possible. The dairy as well as the house is equipped with an electric hot water heater which gives an abundance of boiling hot water for use in cleaning and washing milk utensils.

Appreciated in Household

It is in the house that the value of electricity cannot be figured in dollars and cents. To the average farm housewife a refrigerator of any kind is a luxury which she feels she must get along without. This is not on account of lack of space, but rather because ice is hard to get. The electric refrigerator is automatic and does not require ice. The cost of operation is less than the cost of ice, when the question of labor is considered. With the ironer and washer, approximately five hours per week are saved. The radio,



Electric Water Heater Mounted Beneath Sink in Kitchen on Meyerhoefer Farm Gives a Constant Supply of Hot Water.

vacuum cleaner, toaster, and sewing machine are only a few of the uses to which electricity is put within the Meyerhoefer home. When the day's work is done, a shower bath in the basement, with plenty of warm water if needed, puts new vigor into tired muscles and saves long hours in the laundry over soiled bed linen.

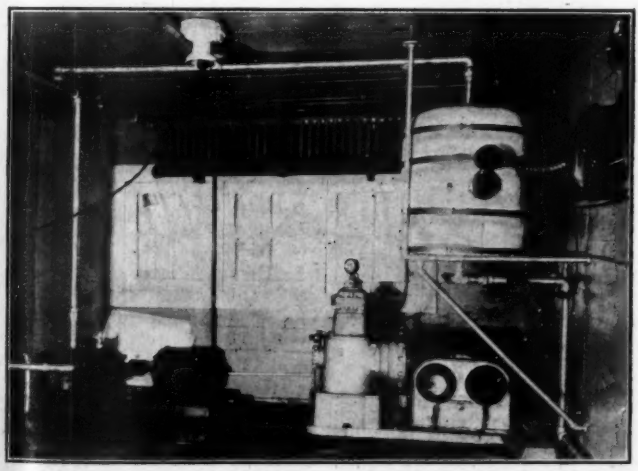
More Eggs

"We get lots more winter eggs since we use the lights," says Mrs Meyerhoefer. Everyday last winter the flock of 125 hens laid 60 eggs or more. An electric incubator made the hatching problem easier until this year.

Since the fame of the Meyerhoefer farm has become known, many visitors come to see how electricity is helping them. The Southern Wisconsin Electric Company, from whom they get the power, use it as a demonstration farm. Over 1,000 visitors came last year. Naturally the frequent turning on and off of motors to show their use, runs the cost of operation up. In 1926 the average kilowatt hours per month for all purposes was 1609. December and January were the two highest months, with more than twice as much power consumed as in May and July the lowest.

Two neighboring farms also

(*Continued on page 26*)



Here's the Equipment Room of the Meyerhoefer Dairy Building. Water Circulating Pump Is Shown in Lower Left Hand Corner; Refrigerator Compressor and Motor in Right Hand Corner; Water Heater Directly Above.

Here's an Experienced User Who Says the

Electric Range Saves Most Labor

By MRS. ELIZABETH A. WAGNER

THE electric range has often been maligned as a servant of the farm household, and it is only within the past year or so that its qualities have been fairly described by the farm press. The following article will, therefore, prove interesting in that it tells just how the electric range is looked upon by one who has been using it for years.

To the women whose farm has been electrified comes this bewildering question: "Which of the larger pieces of electrical equipment shall I buy first?"

Of course, the first thing that will come to your mind is the laundry equipment—the washing machine and the ironing machine or mangle. However, wonderful and desirable as these things may seem, it is equipment which is used in the average home but once a week. The thing which without question should be purchased first is the one which is used most often and which contributes most in lightening the labors of the woman on the farm.

Range Most Used

In the first place the electric range is used three times, and sometimes more, during the day. Just a turn of the switch and there is clean and constant heat. There are no more pans to scour on the bottom. There is no more wood to carry in. There are no more ashes to carry out. It endears itself to the housewife who likes to do her own baking because it never fails her and the results are always the same. It eliminates worry and constant watching. This is particularly true when the range is equipped with an automatic temperature control.

Perhaps it is well to say here that practically all the well-known electric ranges on the market are equipped with this wonderful feature. An automatic temperature control will pay for itself over and over again in food saving, current saving and in peace of mind. Imagine the satisfaction of being able to set the temperature control on your range at 350 degrees and to know that you will take from your oven bread that is uniformly and beautifully browned. This perfect browning has been accomplished without any watching on your part and while you have perhaps gone about your other household tasks. Maybe you have been able to finish the mending which has been staring you in

"The Electric Range Eliminates Worry and Constant Watching"

the face for so long and which you simply could not find time to do.

Using Oven to Prepare Whole Meal

The oven should be used very often to prepare the whole meal. You will soon discover combinations of food which go particularly well together. The cookbook which comes with your range also has suggestions for oven meals. Meats roasted electrically shrink very little and are therefore more juicy and nourishing. Vegetables can be prepared in the oven with little water and in some cases, with no water at all.

Food experts agree that entirely too much water is used in cooking and that the most valuable juices and mineral salts are thrown in the kitchen sink. The use of little water when cooking on the surface units of your electric range is also advisable. Three things are accomplished by the use of little water. They are: First, the saving in food values, second, the saving in time by get-

(*Continued on page 24*)

Here's a Northern Farmer Who Strongly Endorses

Electric Heat for Brooding

By E. R. MEACHAM

IN our February issue there appeared an article telling of what the electric brooder has accomplished on the Pacific Coast. And here is the experience of a poultry raiser with these brooders in one of the colder states. Evidently the electric brooder is doing all that is claimed for it, and is established as one of the necessities for the successful poultryman.

Mr. William Belda of DeForest, Wisconsin, began using electric heat for brooding last year.

"We have a 500 chick brooder," Edmund, his son, told us when we talked to him about it. "But we do not put that many in at a time. The full number allowed by the manufacturer's rating of the brooder will usually result in crowding the chicks. We put in about two hundred, and used it for two or three broods."

"Did it keep the chicks warm?" I asked next. That is the question in the mind of everyone who has tried to carry baby chicks through our cold northern spring.

The Electric Brooder Maintains an Even Temperature With Very Little Attention and Without Fire Hazard.

"Yes," he answered readily. It kept the chickens comfortable all right. It did not warm the whole house though. Our brooder house is 10 x 16 feet, and it is not insulated. But we got the chickens about the middle of April and they were not too cold outside the hover."

Progress in Brooders

During the last half dozen years electric brooders have gone through an extremely rapid development. Those on the market now are designed with heating elements large enough to keep brooding temperature under the hover while the room outside may be as cold as 32°.

Of course that is not an ideal condition. The chicks are probably better off with a room temperature around 60°, so they will not suffer extreme changes when they go out to eat.

"Now, if we were to try and raise chickens in March," Mr. Belda went on, "I think we would put up a stove in one corner of the house."

"And not use the electric brooder?" I asked.

"Oh, yes. We'd keep on using it. It has them all beat when it comes to taking care of it. We should use the stove just to warm the house up a little. It would not need constant attention. We would not even try to keep it going at night. It would take lots less work than a regular brooder stove."

Farmers who have used electric brooders seem unanimous on this point. They like them because they are simple, easy to operate and free from fire hazard. There are no lamps to fill, no wicks to trim, no fires to punch, and no ashes to take away. They can be plugged in as easily as an iron and can be moved about readily for cleaning or storing.

"As the chicks grew older," said Mr. Belda, we raised the hover a little now and then by adjusting the length of the legs. When they began to feather out a little, we stopped using it daytimes and left it on only at night."

Good Heating

Well made brooders have a heating element large enough to provide ample heat whatever the weather changes. It is designed to distribute the heat evenly without any hot spots under the hover. Most brooders nowadays are insulated with some of the light insulating boards to keep the heat from passing through the hover—and so to cut down the current necessary to maintain a uniform temperature.

Automatic Control

One of the principal advantages of electric heat for any purpose is that automatic control of the temperature is so accurate and so easy. A heat-control called a thermostat on one of these brooders enables you to set it for the temperature you want. You can then forget it. Day in and day out, so long as it is turned on that brooder will hold an even heat. If it grows colder outside, the current will stay on longer; when it warms up, the current will be cut off more of the time.

Some brooders are shipped with this thermostat screwed down tight to prevent losing the screw in the packing. When this is done the thermostat cannot open to cut off the current at the proper temperature. As a result, the fluid in the thermometer may reach the top of the tub and burst the bulb. To avoid this possibility, start the brooder with the thermostat set so that it will open as soon as the brooder begins to get warm. It is then an easy matter to get the desired temperature by further adjustment.

Use of Brooder

Any brooder should be started three or four days before the chicks are put in. That will warm the house and the sand or chaff on the floor as well as enable you to test out the temperature regulation.

"What is ample heat for a chicken?" I asked a friend of mine who raises hundreds every year.

"I always ask the chickens that," she answered with a twinkle in her eye. "I aim to keep them comfortable. You can always tell by their actions. If they aren't warm enough, they will pile up trying to get nearer the heat, and will chirp continually. If they are too hot, they gasp and sit around with their mouths open. If they are comfortable, they will scatter out under the hover; some of them stick their heads outside. In the morning if the droppings are well distributed under the hover, I know they have been comfortable throughout the night."

Proper Temperature

Though it is impractical to attempt any hard and fast recommendation for brooder temperatures, the United States Department of Agriculture does say that in *most cases* the temperature under the hover should be from 90° to 100° F. when the chicks are just put in. In small hovers, they say, it can be reduced to 85° for the second ten days; then lowered to 70° or 75° for as long as the chicks need heat.

It should be remembered that the top of the brooder is considerably warmer than the floor and that the position of the thermometer makes it record this higher temperature. Therefore, if you want the chicks to live in a temperature of 90°, it may be necessary to adjust your thermostat so that it opens when the thermometer shows 100° or more. This difference will vary with outside conditions.

The hen adapts her method of brooding to changing temperatures, to wet weather, and to the size of the chicks. The operator of an artificial brooder can do no better than follow her example. No fixed temperature will do; the comfort of the chickens is the best guide.

Brooder House Should Be Warm

The brooder house itself has a large share of responsibility for that comfort. It should be light and warm. It may be stationary or it may be portable, but it should not be very large in either case. Few people try to raise more than 500 chicks together. A 10 x 12 house will care for that number comfortably. If it is made with a shed roof, its ceiling may be seven feet from the floor in front, and only four and a half feet in back without making it unduly difficult to care for. It should have plently of windows on the south side, both for light and for such warmth as the spring sun gives. As soon as it warms up outside, these windows should be opened wide in the middle of the day to give the chicks direct sunlight.

Keep Walls and Floors Tight

Making it warm is the biggest job. Of course it goes without saying that the walls and floors should be tight to keep the heat in. A double floor with heavy building paper between will keep out some of the dampness and cold. And a good tight lining of some thick insulating wall board applied to every inch of walls and ceiling will do wonders for an old house.

"Us Old Time Farmers Must Reform"

By C. L. Wood
R. R. No. 2, Madera, Calif.

I AM a farmer and I am proud of it. I come from a long line of farmers too. There was a time, however, when I was not so proud of this fact. But let me tell you the story.

In my younger days I was able with the help of Dobin and the plow to wrestle a fair living from the soil. I even saved enough in those days to set aside a college fund for my boy, a privilege never granted me.

"Dad, you are all right, the old farm is all right too, but your farming methods are all wrong. You haven't any machinery to farm with. You are trying to compete with 1922 conditions and use 1892 methods. It can't be done."

But ere my boy was of college age times began to change for the farmer and for the world in general. The hurry up age was upon us and most of us old time farmers didn't have the slightest conception of how to meet this new state of affairs. Land, living and labor costs began a steady climb upward but prices for my produce didn't follow at an equal pace. Although I worked Dobin overtime my net farm earnings were gradually growing less and less. The old farm produced just as much as in the past, yes even more, but the production costs were much higher now. Obviously something must be done, but what?

The only surplus money I had then was the college fund for my boy. I had long since determined that that fund should never be touched by me even if the Dobin, the ranch and myself perished in our struggle for existence. I decided to carry on as best I could, but my boy must never know the hardships of farming.

Time passed and my son was ready for college. Then I found to my disappointment and dismay that he was set on an agricultural engineering course at the University Farm, Davis, California. I had hoped that he would choose a profession in which rewards were more certain and I had often urged him in late years in this direction. Well, to make a long story short, he went to Davis.

By the time he had finished his course there and returned home, a full fledged agricultural engineer, the old farm was in a last stage of dilapidation and Dobin and I were on our last pegs, if you know what that means.

Returns to Farm

The first question I asked my

boy was where he was going to apply for a position. "Dad," he said, "I am applying to you for a position." I nearly had heart failure, but I listened. How could I pay him an engineer's salary. I wasn't even sure I could keep the farm? I heard him saying, "Dad, you are all right, the old farm is all right too, but your farming methods are all wrong. Why Dad, you haven't any machinery to farm with. You are trying to compete with 1922 conditions and use 1892 equipment. It can't be done. Dobin has his virtues, but what we need here is modern machinery, modern farming methods, electricity. I want a share in this farm, and I guarantee that in five years from today you will again be proud of this farm and proud of the fact that you are a farmer."

Well, I was skeptical, but the old place was about gone anyhow, and an only son usually has his own way. And besides Dobin and I needed a rest. We borrowed some more money to buy new machinery with and to put in all that new electric wiring. My, what a mortgage that old place had on it then. I thought only a Hercules would pull her through.

Power Does the Work

But, believe me or not, that boy of mine was right. I, or rather we, still own the farm. Today, as I sat on my front porch reading detective stories, which by the way I have always had a weakness for but precious little time to indulge in until recently, a tractor rolled by pulling my plows, doing the work of several horses but only one man rode it and it eats only as it works. Out in my pump house a 20-horse power electric motor hummed and hummed as it drove a deep well pump which filled an 8-inch discharge pipe with water. As evening fell strange bright lights flashed on in my house and my wife sang in a carefree voice as she prepared supper over her new electric range.

The telephone bell rang calling me to listen to a friend's voice miles away and as we sat down to our meal my boy tuned in the radio on Denver, Colo. Is this all a wonderful dream? Can all these farm labor saving devices and conveniences be real? Of course they are, they make modern farming possible and enjoyable and profitable. After supper we motored to the village and saw a wild west show, a thing never heard of during the days of Dobin and the plow.

I might add that old Dobin is entirely satisfied with this new state of affairs since he has plenty of oats and an abundance of time to eat them in. He doesn't seem to mind the electric motor hums or the bright lights in the barn.

INDEXED

Farm Water Requirements

The capacity of a farm water system must be determined according to the needs for water on that farm. As a guide in making this estimate twenty-five gallons should be allowed daily for each member of the household. Each horse should be allowed ten gallons daily, each cow twelve gallons, more for high producers, and hogs and sheep two gallons. A half-inch hose nozzle admits the flow of 200 gallons an hour and a three-fourth-inch nozzle nearly 300 gallons.

Electricity Is the Safest Form of Power

When Wiring is Properly Done

By T. A. WOOD.

ELECTRICITY is the safest and most efficient power agent known to man today if the electric circuits over which it is conducted are made of approved materials correctly put together and if these circuits are adequate for the load carried. However, it has been the common experience of the rural electric men to find anything except safe and adequate wiring on the average electrified farm of America. And because of the few accidents, which have occured even with this poor wiring prevalent, it has been found hard to prove the danger of such wiring to the average man. This poor wiring practice in rural communities not only lowers the efficiency of this wonderful power agent but it may actually create an unnecessary fire and accident hazard on the farm.

The importance of good electric wiring cannot be over-estimated. It is the highway over which the vehicle electricity travels in doing the work upon the farm. We would not think of leaving, let alone creating, a washout on the main automobile highway through our state. It would be too great a life hazard. And yet many farm electric circuits contain wires which are too small for the load carried, or the circuit fuses may be shunted, or live wires may be bare or there may be current leaks to ground. Any one of these and many more are potential "washouts" in the electrical highway. They are unnecessary hazards which can and should be avoided at but small cost.

Causes of Poor Wiring

Poor farmstead wiring can generally be traced to one of two causes, namely, limited capital for wiring purposes, or a general lack of knowledge of what constitutes good, safe, adequate farm wiring materials and farm wiring practices. When the importance—we might add the necessity—of good wiring is

"The importance of good electric wiring cannot be over-estimated. It is the highway over which the vehicle electricity travels in doing the work upon the farm."

explained to the average farm owner the additional capital necessary to purchase good wiring is usually found somewhere. Interest on this investment comes back in better and more efficient and economic operation of the circuits and a longer farm wiring useful life.

The common building practice in the past has been to allow about one per cent of the finished building cost for the electric wiring costs. Experience has proven this percentage to be too small. It does not allow large enough circuit wires, the use of approved materials, or the installation of adequate outlets for an efficient use of the power. Not only must there be adequate outlets but they must be installed in a safe and convenient position, and the controls must be so located as to expedite the work. To insure this result wiring costs should approximate 2½ per cent of the finished building costs.

Wiring Has Long Life

When properly installed and maintained electric wiring has a long life. It will last as long

Here's a Bit of Neat Farm Wiring—of the "Knob and Tube" type (on Ceiling).

as the average building unless it is subjected to unusual or extreme wiring conditions. The writer has personally worked with farm circuits which were installed in 1908 and they were found in fair condition. It is interesting to note that these were open knob and tube circuits.

The wiring job which costs the most is not necessarily the best under all conditions. In a like manner one particular type of wiring cannot be recommended over all others, that is "rigid conduit" wiring over "knob and tube" wiring, etc. The climatic conditions and other special local features must be considered. However, regardless of the type of wiring installed, it should be the best that that amount of money can buy and the circuits should be routed about the farm so as to give economical and safe electrical service wherever desired.

Wiring Requires Skill

Electric wiring is a highly specialized trade and requires considerable skill and experience in its correct installation. It should not be attempted by the layman. This fact need not prevent anyone from contracting for and receiving a highly satisfactory farm wiring job. There are several ways by which those unfamiliar with wiring practices can be assured of this result. Chief among these are:

1. *Hire a competent, financially responsible, electrical contractor with a good local reputation to do the wiring under contract.*

2. *See that only approved materials are used in the wiring. Approved materials are those which bear the Underwriters Laboratories' Label or appear in their published Lists.*

3. *Be sure that the wiring meets the standards set up by the National Electrical Safety Code and The National Electrical Code as well as the local state and power company regulations.*

4. *Get the connection approval of the power company before the contractor is paid in full, or have the wiring inspected by some authorized local insurance inspector.*

5. *Repair and maintain the wiring after it is put into service at regular intervals and with thoroughness.*

Farmstead Wiring for Electric Light and Power has been made the subject of a bulletin published by the National Committee on the Relation of Electricity to Agriculture at 1120 Garland Building, Chicago, Ill. It covers this important problem in a simple yet complete manner using no technical language and should be very valuable on the electrified farm, or on the farms of those who contemplate electrification. The writer hopes to be able to take up each important section of this bulletin in detail in future issues of ELECTRICITY ON THE FARM. Correct electric wiring cannot be overestimated.

INDEXED

More Power on Farms

According to the University of California's experimental station, nine hundred creameries, representing ninety-two per cent of the dairy manufacturing plants in the Sunset State, use electrical energy for power. The total horsepower in these plants exceeds 73,8000.

This Little Motor Runs Tirelessly. It will Go Fast or Slow as the Job Demands.

Putting a Motor on The Spring Sewing

By V. B. MEACHAM

THIS is the month of howling winds that twitch at the washing on the line and whip our skirts about us as we hurry out to the hen house. It is always either lion or lamb in Wisconsin where we live.

It came in very gently last year. I remember well enough because our club met at my house around the first and all of us were suddenly panicky about our spring sewing.

"The twins are grumbling around that they haven't a thing that's fit to wear," said our president as we settled back after the program.

Sewing Still Undone

"And Norah is complaining that her woolen dresses are too warm for school," said my neighbor down the road.

"And I haven't made up the sheeting I got at the white sales in January, nor my new curtains for the living room," mourned another.

Then they all sat still a minute, and I almost stopped passing the sandwiches, while we were all sorry for ourselves in that complacent way women have, without really meaning it a bit. We enjoyed the prospect. but we were just a little bit tired in our backs and legs already at the thought of the miles of hems, and the miles of underarm seams, that stretched out before us in that turn of the season's sewing.

None of us were really deceived by the way that March came in, but we knew all of a sudden that we must take advantage of some of her blizzardy days or we would be caught with summer and the chickens and the garden on our hands and the pile of sewing still undone.

The new neighbor who had moved onto the old Fuller place

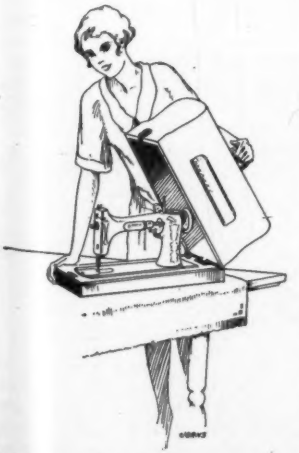
last fall cleared her throat nervously.

"I have an electric sewing machine," she began. "I've done my own spring sewing, and if any of you would like to take it, I'd be awfully glad to have you."

She paused timidly.

"An electric sewing machine," exclaimed Mrs. Brown, our president, almost dropping her coffee cup. "I've been wanting one of them for years, but my old machine's so good I can't see my way clear to getting one. But surely you wouldn't want to lend it."

"I certainly would," said Mrs. Fenton, gaining courage. "You've all been so kind to me since we've moved out here.



I Set the Machine Up on My Dining Room Table So I Could Spread My Work Around.

I'd just love to be neighborly too. If you aren't all going to do your spring sewing on the same days, we could take the machine around easily enough."

'But could we use it all right?" some one asked doubtfully.

Sewing Machine Appreciated

"Oh, yes, all you have to do is plug the motor in just as you do your vacuum cleaner. It runs with foot pressure and you can have it go just as slow or fast as you like. Since you do not have to sit in front of the treadle and lean sideways to watch the needle, you don't get half so tired. I run it twice as fast as I ever could pedal."

And that is what started the Fenton sewing machine on its round of the eight farms up our valley road. It helped us do the work in far less time than usual, and took away all the strain of ceaseless pedalling. It whizzed up hems on curtains, hems on sheets, and seams on everything with never a pause for breath.

It was not one of the cabinet type that folds up and makes an attractive table when the head is down. If it had been, we could scarcely have moved it about as freely.

It was a portable machine with the head mounted on a two-inch base. A tight fitting cover locked down over it so you could carry the whole thing about by a handle in the top for all the world like a heavy, somewhat unwieldly carpet bag. It could be set upon a table anywhere, and stowed away on a shelf or in a closet when the sewing was finished.

I Borrow the Machine

When I went after the machine, I was a little anxious about using it.

"Why, don't worry," laughed Mrs. Fenton. "There really isn't much of anything you can do to an electric motor. I'm just plain dumb about machinery myself, but when my husband got it for me, he told me this was fool proof. It takes very little care to keep a motor running satisfactorily for years. The well made motors sold as good appliances are so designed that they are as nearly trouble free as any piece of running machinery can be. I know all I have to do to this is keep it free from dust and oiled occasionally."

"Shall I oil it?" I asked anxiously.

"No. I've taken care of that because I only use the oil that the manufacturer recommends for it. You have to be a little bit fussy about that,—and about never oiling it when the motor is plugged in,—not even if the switch is turned off.

No Trouble

"The only trouble you might have would be stalling the motor. If it should refuse to start, if it just hums when you turn the current on, turn it off again until you can find out the trouble. You may be trying to start the needle through a heavy hem."

But nobody did have any trouble with it and the electric machine made the rounds and came back as good as ever.

Mrs. Brown was so much pleased with it that she had Mrs. Fenton's brother-in-law, who works in an electric shop in town, get her a little motor for her sewing machine.

It had the same speed control as the one on the machine we had used and could be set up to drive the wheel of her machine without even a belt.

"The sewing machine is unique," he told her when he brought out the motor. "It has needed almost no change in the machine itself to make it ready to drive by electricity, and a very small motor will drive it."

Electric Range Saves Most Labor

(*Continued from page* 13)

ting the food to cooking quickly and third, the saving in current consumption.

Some women will fear that they will have to change their cooking methods so much that it will be like learning to cook all over again. You will soon find out that this is not true. The recipes that you have used as standbys for years will only come out better because you have prepared them with electricity. All that is really changed is the old and labored way of cooking.

The woman who uses her electric range correctly becomes an enthusiast. She would not change it for any other appliance.

Choose the Range

When the time comes for you to decide the question of which piece of electrical equipment shall come next, choose the range and the years following will prove that you have made a very wise decision indeed.

The farmer can do no more for his wife than to provide this simple and easy process of handling the hardest work the farm woman has to do.

Milking Machines a Boon to the Farmer

By S. P. SHERMAN

THE milking machine is the greatest time and labor saver on the farm and it is becoming more popular every day.

The writer travels over most of the leading dairy states and finds various makes of milkers in use, some on herds with but a few cows; others on herds of a hundred or more.

There is a universal feeling among the farmers and dairymen that the milking machine with its regular action, every milking the same, tends to increase the milk flow and that the cows produce for a longer lactation period. The action of the teat cup on the cow merely expanding the teat and dilating the milk duct is much more gentle than hand milking where ofttimes the hands are rough, the finger nails long, or an extra "jerk" results from the hand milker being nervous or in a hurry.

How They Compare

The concensus of opinion is that the average hand milker will milk about eight cows per hour, while the same man with a milker will milk from sixteen to twenty cows per hour, according to his adeptness with the machine. This time saving on a herd of eight cows would be a half hour per milking, an hour per day, or 365 hours per year, equal to about thirty-five good hard farm working days.

The bacteria count in the milk is naturally much lower where a machine is used and the *proper care taken in sterilizing*, for the milk in coming from the cow is not exposed to the air. Milking in an enclosed pail of course eliminates the possibility of any dust,

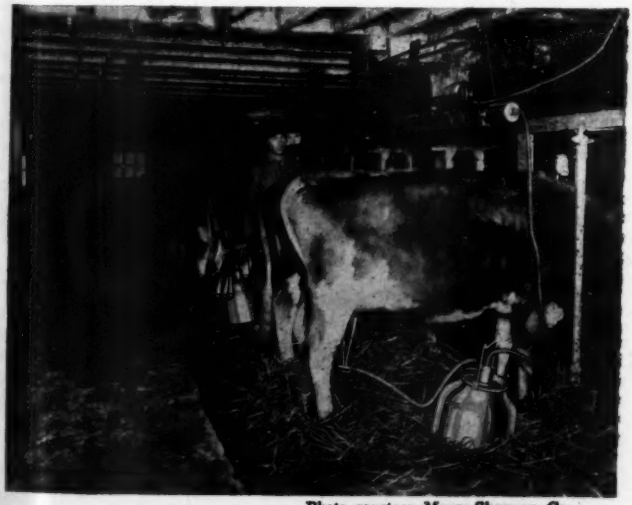


Photo courtesy Myers-Sherman Co.

Milking Is Not Such a Big Chore Where the Electric Milker Lends a Hand.

dirt, straw, cow hair, or human perspiration entering the milk.

Which Type of Equipment?

Two types of machines are in common use—the pipe and pulsator type, and the drive rod or valve chamber type. The users of each type machine naturally swear by their own machine as in many cases it is the only type they have had experience with.

The pipe and pulsator type as a rule uses what is termed a universal teat cup, with a rubber liner; while the valve chamber type uses a conic shaped cup with no innerliner. Both styles have proven successful, and both take the milk from the cow in the same way. That is the milk is drawn by creating a vacuum on the teat half of the time, at which time the normal air pressure on the udder forces the milk through the teat which is expanded by the removal of the air pressure on the teat.

The rubber lined cup applies this vacuum and draws the milk, then partially releases the vacuum by letting air between the shell of the cup and the liner, thus squeezing the teat and forcing the blood circulation.

The valve chamber type applies this vacuum and completely releases it about forty-five times per minute. This type of milker, by completely releasing the vacuum, allows normal circulation of blood without the need of forcing the circulation.

Sizes of Motors

Various types of milkers use electric motors, ranging from one-fourth horse power to one and one-half horse power, to milk four cows at once. The machine using only ¼-HP motor to milk four cows at once would milk approximately thirty cows per hour. Using this small motor would add very little to the electric bill and certainly would get away from many an ache and pain that goes hand in hand with hand milking.

Electricity Saves a Hired Man

(*Continued from page* 11)

have electric service. Wm. Aspinall connected to the high line in February, 1926. In the first year he used 1338 kilowatt hours for power. Four in the family operate the 175 acre farm. 1400 kilowatt hours were used for the range; 294 for lighting the house, barn, garage, chicken house and yard; 1121 for the water heater. Six hundred pounds of milk were produced per day. George Matheson in 1926 used 197 kilowatt hours for pumping, 290 hours for light and 1354 for the range.

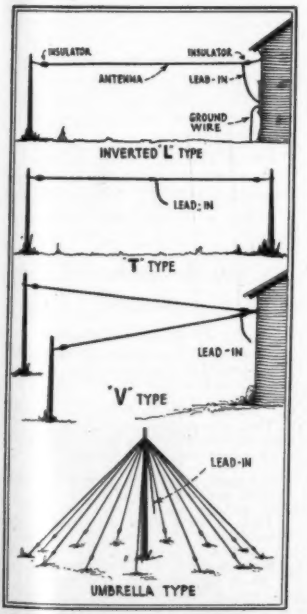
Select Uses Which Are Practical

The fact that the Meyerhoefers are using electricity for so many purposes does not indicate it would be practical on every farm. Some operations are practical and profitable in one place and might not be under other circumstances. But there are farms where every use for electricity will find its place. The problem now is for farmers and power companies to get together in figuring out how to make electricity available for farm use at a price that the farmer can justify and what needs its use will fill most. Mrs. Meyerhoefer's expression, "If we had to do without electricity, we would quit farming," will be the thought of many farmers and their wives in the next few years.

Radio Notes

Antenna of All Types for All Purposes

For broadcast reception, the simplest antenna is one consisting of a single wire insulated at both ends and supported free and clear of the ground and surrounding objects, with a wire connecting one end of the horizontal span with



Common Types of Antenna for Broadcast Reception

the antenna binding post of the radio receiver. The aerial or horizontal wire section should swing 35 feet or more above the ground, so as to clear virtually everything. The total length of wire, including the aerial, the lead-in and the wire going to the ground, should not exceed 150 feet, and preferably not more than 100. This type is known as the *inverted "L."*

Another popular type is the *"T,"* with the lead-in connected at the center of the horizontal section of aerial. This type is employed when the receiving set is located at a point approximately below the center of the horizontal section.

The Vertical Type

There is also the *vertical type,* comprising a single wire stretched vertically. This practice is found in congested cities, where apartment house dwellers endeavor to pursue radio pleasures in spite of unsympathetic landlords.

Still another type is the *"V,"* in which two horizontal wires of the same length diverge from a common support and extend to separate supports at the far ends. This type is favored only to make up for lack of sufficient span for a single wire.

Still another type is the *umbrella,* in which a large number of wires radiate downward from the top of a single center mask, like the ribs of a partly opened umbrella. The umbrella type is rare in reception. Its main purpose is in crowded districts, where there is insufficient space to stretch the usual horizontal wires.

Indoor antennae, consisting of 50 to 75 feet of insulated wire running behind the picture moulding or under the carpet, or up through the house and stretched in the attic, give excellent results, especially in summer as a means of combating atmospheric disturbances or static.

Sparks and Chaff

Mechanically Inclined

The wife was learning to drive her new car and was verv much thrilled over it. "Of course," she said, "I could never change a tire myself. Why, I can't even lift one. You know they have sixty pounds of air in them in addition to the weight of the tires."

A Strong Prescription

"Doctah," asked a lady of color, "Ah's come to see ef yo' am gwine order Rastus one o' dem musta'd plastahs agin today?"

"I think perhaps he had better have one more," answered the Doctor.

"Well, he says to ax yo, kin he have a slice o' ham wid it count of it's mighty pow'ful perscription to take alone."

Intoxication

Strange ideas prevail in different sections of the country as to what intoxication really is. Recently in one of the rural cities a man was charged with intoxication but was released when testimony was presented to the effect that the man could walk by himself.

But this idea of intoxication was severe as compared with the symptoms as recognized in Kentucky. In a village in that state one Sunday afternoon a man lay in the boiling sun in the middle of the road with an empty bottle by his side.

"He's drunk; lock him up,' the sheriff said. But a woman interposed hastily:

"No, he ain't drunk," she said. "I just seen his fingers move."

Out Where Men Are Men

Being too lazy to milk and my wife having refused to milk any more I will sell all my extra good milk cows and some other stock and implements at public auction.
—*Handbill printed in Lamar (Col.).*

Not Lost, But Gone Before

Two farmers met in town a few days after a cyclone hit the country-side.

"Yes, it did quite a bit of damage out our way," said one, reflectively. "By the way, Hank, was that new barn of yours injured any?"

The other meditated slowly.

"I can't say rightly," he answered, slowly. "I ain't found it yet."—*The Outlook.*

Ma on Laundry Equipment

By DOUGLAS MALLOCH

I know that I was meant to be
A helpmeet to your dad;
I don't think anyone but me
Could keep from goin' mad.
He thinks that anything is fine
That saves the backs of men,
But anything for savin' mine
Is something else again.

That man can take a cotton shirt
And set around a room
And gather up a lot more dirt
Than I can with a broom.
I've chased 'em up and down a board,
But, sisters, I am through,
If he a tractor can afford,
Then I want something, too.

He thinks machines are rougher than
A washboard used to be.
Of course, he's wrong, like any man—
They save the clo'es, you see.
But if they did, we'll just suppose,
Wear out the lace or trimmin',
It's better to wear out the clo'es
Than wearin' out the women.

Grind Feed with Electricity!

Install a Rowell "Whip-It" Hammer-Mill, turn on the electric power—and grind feed automatically! Doesn't matter what kind of grain it is—oats, barley, rye, shelled corn or any other small grain. The swinging hammers of the Rowell Whip-It *pound* the grain into the best feed you ever saw!

No steel or stone burrs to heat, get out of adjustment or wear out. Nothing to break. The swinging steel hammers can strike any foreign substance, such as a stone, without damage and without interfering with grinding. Each hammer is independent of all the other hammers.

A 3 to 5 H.P. motor runs it. Smooth-running, long-lasting New Departure roller bearings save power and add years to the life of the machine. It is automatic in operation—does not require the services of an attendant when properly hooked up. It has a very satisfactory capacity on all small grains, is economical to operate and is very reasonably priced.

Write for descriptive folder and prices.

The I. B. Rowell Co.
1316 Lincoln Ave.
Waukesha, Wis.
"Quality Implements Since 1870"

Write for **32** *Page* **FREE CATALOG**

Fresh Water

~ all you want to every faucet, direct from well

NOT to just one, but to *any number of faucets* you get fresh *water* with a National System.

Not from just one, but from *several sources* you get water with the National Fresh Water System — draw from well, cistern, stream and lake with only one power unit.

Not from shallow well alone, but from any depth up to 150 feet get 600 to 1200 gallons per hour.

Not from a tank which may freeze in Winter and allow water to become warm in Summer, but direct-from-the-well the National supplies you. Two types: automatic-electric and engine-driven.

Free planning service. Easy payments if you wish.

National Utilities Corp.
327 Belleview Pl., Milwaukee, Wisconsin.

Subsidiary of National Brake & Electric Co., Division of Westinghouse Air Brake Co.

National
FRESH WATER SYSTEM

Household Hints

Some Timely and Interesting Suggestions of Value to the Farm Housewife.

Something That's Appreciated

By SALLY E. DAVIDSON

If there is a wife or mother anywhere in this world who is in the least indifferent about the things that might please her menfolks I have yet to meet her. It seems no matter how much work crowds in upon us, our time is never so full that we are indifferent to the things that promise a little more comfort, a little more convenience or pleasure to our men. And that is, of course, as it should be.

Knowing how very much most men dislike shaving with cold water, and where no automatic water heater exists, I sought for a way to heat this water as easily, simply and inexpensively as possible, and found it in the electric immersion heater.

At this time of the year, particularly, there is a tremendous need for hot shaving water. The mornings are cold and the cold water unpleasant.

That is why I decided to put the duplex electric convenience outlet to work. I shopped around until I found the immersion heater that promised to heat a wash-bowl full of water in the least time possible, and bought it. And it has proved a great success.

It has accomplished two things—one is that mornings in our house are no longer as serious as they once were, and the complexions are much improved. Thus if your ambition is to have happy men around, try giving them hot water for shaving via the immersion heater.

Electrical Cookery of Mushrooms

By STELLA ELIZABETH DELAND

Mushrooms are in a class by themselves. While considered a vegetable they, as a matter of fact, possess when properly cooked, all the nutriment of meat. Here are several recipes for cooking them electrically.

Creamed Mushrooms

Rinse the mushrooms only well enough to remove earth. Do not peal, but remove the stems, which can be used for cream of mushroom soup. Simmer the stems of one pound of mushrooms in two and one-half cupsful of milk, season and serve in cup.

The mushroom tops you saute in butter over medium heat on your electric range or grill for ten minutes. Make a cream sauce from two tablespoonsful of butter, the same quantity of flour and one cupful of milk. Season to taste. Arrange toast on a hot platter, place the mushrooms on this and pour the cream sauce over all and serve.

Broiled Mushrooms

Prepare the mushrooms as for

LAUSON Water Systems

The Electric Jack

Will convert your ordinary pump into a supply unit, controllable from the house, that will deliver all the water wanted—deep or shallow well.

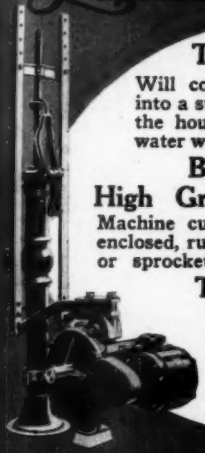
Built Like a High Grade Transmission

Machine cut hardened gears, fully enclosed, running in oil. No chains or sprockets — high grade motor.

The Pumping Head

A neat, sturdy job in all customary variations, specially designed for use with the Lauson Jack.

Write for Special Literature



Bolander Bros. with Papec and 7½ h.p. motor

Fill Silos - 2c. Per Ton

In No. 3 view below, Charles Bolander, Shafer, Minn., used 7½ h.p. motor with No. 81 3-knife Papec at 425 r.p.m. securing 5.3 to 10 tons an hour and using .658 to 1.224 kilowatt hours per ton. Arthur Bolander secured similar results on his 32-foot silo. Cost of juice per KWH 3c. Cost of filling 2c per ton on basis of 10.5 tons per hour.

No. 4 view shows No. 81 Papec with 7½ h.p. motor Cutting Silage at Nick M. Erdin Farm, Holdingford, Minn.

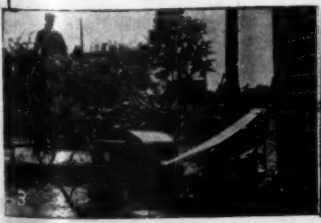
Send for our new Bulletin on:

"Single Phase Motors and Ensilage Cutters."

Also send for our new three-colored 1928 *Papec Cutter Catalog.*

PAPEC MACHINE CO. Dept. E. Shortsville, N. Y.

Manufacturers of Papec Ensilage Cutters, Hay Chopping Machines, Hammer Type Feed Grinders.



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the above recipe. Arrange on a rack, brush tops of each with melted butter, and broil in your electric broiler for about ten minutes. Serve on toast with chopped parsley.

Baked Mushrooms

Again prepare the mushrooms as directed above, arrange them in a shallow buttered bakepan cup-side up. Into the center of each mushroom place a piece of butter about the size of a dime, sprinkle with salt, pepper and paprika, and bake in your electric oven at a temperature of 400 degrees. Serve on toast or in patty dishes.

Forgotten Lamps

The story has come to us that when the door to a hidden closet was recently opened in an Alpena, Mich., home an electric light bulb was found to be burning. And as far as the tenants and former tenants were able to recall, that closet had not been opened for sixteen years.

This is good—as a story. As an illustration of the life span of electric light bulbs it may be without an equal, and it is certainly pertinent as an example of how light bills may be boosted by a forgotten connection that someone neglected to turn off. Few consumers would likely be guilty of an oversight as flagrant as the above incident but forgetting lamps in closets, cellars and attics is a fairly common occurrence. —*N. E. L. A. Bulletin.*

What title for the Cover?

ELECTRICITY ON THE FARM offers a $25.00 cash prize for the best title for the picture shown on the cover of this issue (March).

RULES OF CONTEST

1. Contest closes March 30th.

2. Contestant must be a farmer or a member of his family *living on the farm.*

3. More than one title may be submitted.

4. In case of a tie, each winning contestant will receive $25.00.

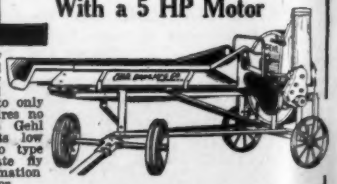
5. Print plainly your name and address, and send your suggestion to Title Editor, ELECTRICITY ON THE FARM, 225 West 34th Street, New York, N. Y.

6. The winner for March will be announced in ELECTRICITY ON THE FARM for May.

GEHL

SILO FILLER
With a 5 HP Motor

A Combination that has surprised many by its economy and practical features. Fill your own silo when your corn is ready with the help you have on your farm and get the silo full. Power charge amounts to only from $3 to $5 per silo and a motor requires no attendant, saves one man's time. The Gehl Cutter requires less power because of its low speed, is absolutely self-feeding, has auto type gear shift, all gears in oil, boiler plate fly wheel, ball bearings. Write for full information about cutter and running with HP motor.



GEHL BROS. MFG. CO., 449 So. Water, West Bend, Wis.